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DESCRIPTIONS OF NEW CHALCID-FLIES.

BY A. A. GIRAULT.

GENUS ANAPHOIDEA Girault.

Anaphoidea luna new species.

Female: Length, 0.50 mm. Black, the scape, pedicel and proximal three tarsal joints dusky lemon yellow, the trochanters and knees pallid; wings obscurely, slightly fumated, subhyaline; cephalic tibiae lighter.

Differs from the other European species, *diana* Girault, in being black instead of brown, in having the second funicle joint more than twice the length of the first and only slightly shorter than the third. In regard to the three North American species, it is most similar to *pullicrura* with which it may be confused; however, upon comparison of specimens, *pullicrura* is seen to differ in that the fore wings are more deeply infuscated and not quite so broad, their caudal margin more concavely curved and the scape and pedicel are darker. Also in *luna* the midlongitudinal line of discal cilia is longer and may include as many as eleven cilia. Otherwise I cannot distinguish between the two. It is distinct from other North American species. Of the Australian species (*harveyi*, *galtoni*, *linnai*) it is distinct from all excepting *linnai*, which it resembles closely. However, *linnai* differs in that the proximal tarsal joints are longer, the legs lighter, the fore wings more deeply infuscated, the scape and pedicel dark. The Australian *linnai* is thus allied with the North American *pullicrura* (from which it differs mostly in bearing longer proximal tarsal joints) and this European species, the three distinguishable only on very slight differences and yet undoubtedly distinct species.

From three specimens, two-third-inch objective, 1-inch optic, Bausch & Lomb.

Male: The same but the scape and pedicel still lighter; antennæ nearly similar to those of male *pullicrura* but the flagellar joints lengthen slightly distad instead of shortening, funicular joints 3-6 subequal, each about a sixth longer than either joint 1 or 2.

From three specimens, similarly magnified.

Described from three specimens of each sex mounted together on a slide received for study from Prof. F. M. Webster through the kindness of Dr. L. O. Howard, the slide labelled "6655. Mymarid parasites of *Phytonomus* (from shipment from Italy by Fiske). Salt Lake City, April 8, 1911. T. H. Parkes."

Habitat: Europe, Italy (Portici); North America (imported)—Utah (Salt Lake City and Murray).

Host: *Phytonomus posticus* Gyll.

Types: Cat. No. 15452, United States National Museum, Washington, D. C., the above specimens—three males and three females.

My attention was drawn to the existence of this species by looking over Bull. No. 112, Bureau of Entomology, U. S. Department of Agriculture, where on page 35 it is stated that a Mymarid egg-parasite, *Anaphes* species, was found in seven shipments of the *Phytonomus* from Italy. On the preceding page (fig. 15) an enlarged figure of the male and the female antenna is given. At the time, the figure looked to me like *Anaphes pratensis* Foerster, the only European Mymarid recorded from North America. I was therefore anxious to receive specimens, and my application to Professor Webster, the author of the bulletin mentioned, resulted in the receipt of a slide bearing the six specimens of the foregoing species of *Anaphoidea*. Thus, if the figure is correct, there must be two distinct species of egg-parasites concerned. Having a North American (Urbana, Illinois, May 7, 1911) specimen of the *Anaphes pratensis* I compared it with the figure given in the bulletin and though I cannot be certain, the agreement of the figure of the female antenna with my specimen is perfect. The tarsi and wings, however, do not agree and if there has been no error in the figure, the latter represents a species of *Anaphes* different from *pratensis*.

GENUS ALAPTUS Haliday.

Alaptus animus new species.

Female: Length, 0.24 mm. Black suffused with dark brown, the legs and antennæ pale but touched in places with dusky, the antennal club black, contrasting. Fore wings subhyaline, dusky under the venation; posterior wings dusky, maculate with whitish. Fore wings narrow, with a mid-longitudinal line of from four to five discal cilia, the line rather short and

somewhat distad of the mid-distance between apex of venation and apex of wing. Antennæ with the proximal funicular joints more or less cylindrical, joint 1 short, barely longer than wide, somewhat shorter than funicular joint 3; joint 2 nearly longest, twice longer than wide but subequal to joints 4 and 5 which are cylindrical ovate; club long, slender, conic-ovate, subequal in length to the funicle. Pedicel somewhat longer than any of the funicular joints.

Of the Australian species, closest to *newtoni* Girault, from which it may be distinguished by its darker body coloration, the pale antennal funicle contrasting with the dark club and the comparatively great length of the latter.

Male: Not known.

Described from two females captured on windows in a private residence at Nelson, North Queensland, November 22, 1912, 16th-inch objective, 1-inch optic, Bausch & Lomb.

Habitat: Australia, Nelson (Cairns), Queensland.

Types: No. Hy. 1289, Queensland Museum, Brisbane, the foregoing specimen on a slide in xylol-balsam.

***Alaptus maccabei* new species.**

Alaptus immaturus Perkins, *partim*.

Female: Length, 0.33 mm. Black suffused with some brown, the legs either pallid or dusky, the scape and pedicel pale yellowish. Like *immaturus* Perkins, as identified in the paper on Australian Mymaridæ (Girault, 1912)¹ but the body much darker and the line of ciliation in the disc of the wing is much longer, extending from apex to the venation. The thorax is somewhat paler.

Male: Not known.

Described from the two females from Nelson and Herberton, Queensland, identified as *immaturus* Perkins in my paper on Australian Mymaridæ (Part II, Australian Hymenoptera Chalcidoidea).¹ The species may be merely a variety of *immaturus*; the specimen of the latter, as identified by myself, had the head and abdomen dark brown, the thorax pale lemon yellow.

Habitat: Australia, Nelson and Herberton, North Queensland.

Type: No. Hy. 1290, Queensland Museum, Brisbane, one female in balsam (Herberton, Q., 28 Dec., 1911) mounted with the type female of *Litus schleideni* Girault.

Respectfully dedicated to Joseph McCabe, the former Roman Catholic priest, now writer on the philosophical questions of the time.

¹ Memoirs Queensland Museum, Brisbane, I.

PARANAPHOIDEA new genus.

This genus, captured quite accidentally, appears to me to be quite remarkable in its family, since it bears one or two unique characteristics. The venation is like that of *Stethynium*, the antennæ like those of *Anaphoidea* but the posterior wings are very broad for the family, nearly like those in the Eulophidæ yet distinctly pedicellate at base. The abdomen bears a distinctly exerted ovipositor. This genus, for the present, I consider allied with *Anaphoidea*.

Female: Head normal, the lateral ocelli distant from the eyes, the antennæ inserted about in the middle of the face, 10-jointed, the club obliquely divided, the pedicel as long as any of the funicular joints which, excepting the small first, are all subequal and oval. Tarsi 4-jointed, the first joint long, the tibial spurs single, those of the cephalic legs, longest, long and very slenderly acute, straight, *not forming a strigil*. Fore wings shaped as in narrow-winged species of *Gonatocerus* but nearly truncate at apex, the venation like that in *Stethynium*, there being a foot-shaped stigmal vein, quite half as long as the marginal; marginal cilia very short. Abdomen as long as the thorax, oval, sessile but the phragma *apparently* absent; ovipositor very long, exceedingly fine and slender, inserted at extreme base of abdomen, exerted with its valves for a length equal to *half* that of the abdomen and curved. Posterior wings broad and knife-shaped, bearing about seven lines of sparse discal cilia, the blade over a third the width of the fore wings, before venation with a slender petiole. Parapsidal furrows complete; scutellum wider than long; axillæ not noticeably advanced, widely separated; pronotum not extending back to the tegulæ; mesopostscutellum as long as the scutum.

Male: Not known.

Type: The following new species.

Paranaphoidea egregia new species.

Female: Length, 0.70 mm., excluding ovipositor. Black, uniquely marked with golden yellow as follows: The mesopostscutellum golden yellow with the exception of a prominent, long, elliptical black marking on each side of the median line and an oblique dash laterad; caudad, the scutum at the caudal margin and mesad with a V-shaped golden yellow marking; the face; on the vertex, a slender line of yellow runs over the cephalic ocellus from eye to eye, laterad widening caudad and cephalad, leaving in the centre of the vertex, two subrectangular areas, before and behind the cephalic ocellus; the margins of the axilla; lateral portions of each parapside, irregular. Legs golden yellow, the tarsi dusky, also the middle of the caudal femora; antennæ yellow washed with black, the club darker. Wings hyaline; fore wings bearing about twenty-six lines of discal cilia, the ciliation dense, abruptly disappearing some distance out from the venation.

Posterior marginal cilia of caudal wings not as long as the blade's width but yet over twice longer than the longest cilia of the fore wing; distal club joint much longer than proximal.

From one specimen, $\frac{2}{3}$ -inch objective, 1-inch optic, Bausch and Lomb.

Male: Not known.

Described from a single female specimen captured from a window pane in a private residence at Nelson, North Queensland, December 6, 1912 by Mr. Alan P. Dodd to whom I am indebted for the specimen.

Habitat: Australia, Nelson (Cairns), Queensland.

Type: No. Hy. 1291, Queensland Museum, Brisbane, the above described specimen on a slide in xylol-balsam.

GENUS PODAGRION Spinola.

Podagrion beneficium new species.

Female: Length, 2.5 mm.; with ovipositor, 5.25 mm. Dark metallic green with aeneous and bright bluish tinges; the face brighter green; exerted portion of ovipositor black; antennae black, excepting the dark metallic scape which is rufous laterad and centrad but sometimes wholly black; trochanters, knees, tibiae and tarsi rufous, the coxae and femora concolorous with the body, the caudal tibiae blackish for distal four-fifths; distal tarsal joint black, the posterior tarsi often pallid yellowish. Oral area black. Wings hyaline, the venation dusky. Teeth of posterior femora black; immediate base of abdomen more or less slightly rufous especially ventrad at proximal half. Eyes and ocelli concolorous, garnet. Mandibles black at tip. Bright metallic blue especially on the abdomen and legs.

Lateral ocelli their own diameter from the eye margin. Head all over and dorsal thorax densely polygonally sculptured or punctate, the punctures moderate to fine, the abdomen, coxae and femora polygonally reticulated, the sides of the pro- and meso-thorax more roughly so. Genal suture fine but distinct. Head, antennae and thorax bearing short, greyish, moderate pubescence; also on the posterior segments of the abdomen and the legs. Posterior femora with six large teeth and a seventh minute one just proximal of the fifth tooth. Metathorax with a conspicuous v-shaped median carina whose apex is at the meson cephalad; the large area cephalo-laterad of each branch of the carina is densely punctuate nearly like the scutellum while the mesal area included by the two branches of the carina is the same but also traversed by an irregular, narrow median carina which sends off oblique shoots making the area rugose. Laterad there are no carinae excepting a thin longitudinal one a slight distance laterad of the spiracle. The metathoracic spiracle is elliptical and slightly curved at one end, thus subreniform. A fovea is just caudad of it.

Marginal vein of fore wing long but shorter than the submarginal, the

post-marginal vein short but longer than the stigmal. Antennæ 13-jointed, with one ring-joint which is distinct; funicular joints shortening distad, the distal two distinctly wider than long, the first two subequal, a fourth longer than wide, each slightly longer than the pedicel; joint 3 quadrate; joints 4 and 5 subequal, slightly wider than long, while joints 6 and 7 are subequal, each slightly shorter than joint 5; club long, ovate, much wider than the funicle, its three joints subequal in length and as long as the proximal joint of the funicle. Mandibles dentate.

From many specimens, $\frac{2}{3}$ -inch objective, 1-inch optic, Bausch and Lomb.

Male: The same but the funicular joints are all distinctly longer, the club shorter, not wider, or scarcely, than the funicle, its distal joint short; antenna lighter distad and the abdomen differs as it should for this sex in this genus. The proximal funicular joint is nearly twice longer than wide, longer than the second joint and none of the joints of the funicle are wider than long.

From many specimens, the same magnification.

Described from twenty-seven pairs reared at the same time from two common large mantid egg masses taken from trees in a forest near Nelson, N. Q., June 25, 1912. The young mantids and the parasites issued on July 4. The hosts were of the same species and the egg masses were of the usual form.

Habitat: Australia, Nelson near Cairns, North Queensland.

Types: No. Hy. 1170, Queensland Museum, Brisbane, two males, two females, on cardpoints, four pins. *Cotypes*—Cat. No. 15361, United States National Museum, Washington, D. C., two pairs on cardpoints.

This species is allied to *olenus* Walker but has a lateral carina on the propodeum and the median carina is divided at the immediate base of the segment.¹

GENUS ASAPHES Walker.

Asaphes americana, new species.

Female: Length, 2.00 mm. Dark metallic green, the coxæ concolorous, the legs yellow, pallid yellow at the tarsi; wings hyaline; antennæ black;

¹ The following notes comparing this species with *P. olenus* Walker are added at the request of the author. The cotypes sent were shipped in a vial together with a ball of cotton, just the size to roll back and forth in the vial so that the specimens were almost completely dismembered when they arrived.

In *P. olenus* Walker the antennæ are rufous with the pedicel much longer than the first joint of the funicle, there are usually six teeth (counting the apical one which is bidentate at apex, as two) on the hind femora and all about equal in size (in *beneficium* some of the medial teeth are much smaller than the rest); front and middle legs brown with no greenish tinge.

In the male cotypes sent the hind femora have only three teeth larger than in the female and so in this respect are not similar to the female.

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femora suffused with fuscous. Venation smoky brown. Marginal vein subequal to the long stigmal, the post-marginal vein somewhat longer. Cephalic tibial spur forming a strigil. Antennæ 13-jointed with 2 ring-joints the second of which is rather large, twice the size of the first, which is larger than the usual ring-joint; the funicular joints widening distad, all wider than long and shorter than the pedicel; joints 1-3 of the funicle subequal, each twice the size of the second ring-joint; funicular joints 4 and 5 subequal, somewhat larger, 6 still somewhat larger; club ovate, not wider than the last funicular joint, the 3 joints subequal, each somewhat longer than joint 6 of the funicle. Scape long and slender. Body polygonally sculptured.

From four specimens, $\frac{2}{3}$ -inch objective, 1-inch optic, Bausch and Lomb.

Male: Length, 1.75 mm. The same but the abdomen is rounded and depressed, the antennal club more thickened and stouter, wider than the distal funicular joint; the flagellum is yellowish white, the pedicel dark, the ring-joints more or less dusky.

From one specimen, the same magnification.

Described from one male and four females mounted singly in balsam.

Received for identification from R. L. Webster of the Iowa Agricultural Experiment Station and labeled as follows: "Exp. 101, 12 and 13 June, 1912. From Hampton, Ia. R. L. Webster," 2 slides 1 ♂, 1 ♀; "Exp. 102. June 12, 1912. From Hampton, Iowa, R. L. Webster," 1 ♀; "Exp. 147, 27 June, 1912. Ames, Iowa. R. L. W.," 1 ♀; and "Exp. 164, 26 June, 1912. Ames, Ia. R. L. W."

Habitat: North America—Ames and Hampton, Iowa (U. S. A.).

Types: Cat. No. 15655, United States National Museum, Washington, D. C., the five slides as above.

This species differs from *vulgaris* Walker in having the legs light yellow instead of ferruginous with darker femora, and in having the pedicel shorter.

GENUS ELASMUS WESTWOOD.

Elasmus proserpinensis new species.

Female: Length, 2.00 mm. Like *flavipostscutellum* (the postscutellum whitish except along extreme base) but the abdomen is wholly shining black, the legs distinctly more colored, only the articulations and tibiæ pallid yellow; and the tegulæ and scape are pale yellow. Vertex rather densely umbilicately punctate; femora and coxæ sculptured. Antennæ 10-jointed, with the first ring-joint very short, hidden; differing from those of *flavipostscutellum* in that the proximal funicular joint is distinctly longer than the pedicel and the joints are all somewhat longer; the proximal club joint forms nearly half of that region. The mandibles bear seven teeth, three

outer (lateral) large ones and four small inner ones. Occiput wholly black. Wings hyaline.

From one specimen, $\frac{3}{8}$ -inch objective, 1-inch optic, Bausch and Lomb.

Male: Not known.

Described from a single female specimen captured while sweeping foliage and grass on a forest-meadow near the town of Proserpine, Q., November 2, 1912.

Habitat: Australia, Proserpine, Queensland.

Type: No. Hy. 1278, Queensland Museum, Brisbane, the foregoing female on a tag, plus the head crushed in xylol-balsam.

In my table of the Australian species of the genus, this species falls in with its ally, *flavipostscutellum*.

Elasmus cyanella new species.

Male: Length, 1.50 mm. Like *cyaneus* but the postscutellum has a transverse yellowish line across it and the cephalic femora are as dark as the others, as are also the proximal tarsal joints. The fourth antennal joint of the female is very long, about twice the length of the club; the proximal club-joint forms half of the club. The mandibles are 5-dentate, three small inner teeth, two larger, unequal, outer ones, the second tooth longest.

From one specimen, magnified as above.

One male captured by sweeping grass in a forest near Proserpine, Q., November 3, 1912. This species may be the male either of *cyaneus* or else of *proserpinensis*. It nearly agrees with *cyaneus* in all excepting the yellow on the postscutellum and minor mandibular characters; it differs from *proserpinensis* in general body coloration and in bearing two less mandibular teeth.

Habitat: Australia, Proserpine, Queensland.

Type: No. Hy. 1279, Queensland Museum, Brisbane, the above male on a tag plus the head crushed on a slide in xylol-balsam.

Elasmus flavipostscutellum Girault.

This species was captured at Proserpine, Queensland, by sweeping grass in a forest, November 3, 1912; a female, also a male at the same time. On this male the band of the abdomen was lemon yellowish with a silvery tinge and the postscutellum had only a lemon yellow stripe across it near base, the caudal coxæ dark only along dorsal margins.

Elasmus minnehaha new species.

Male: Length, 1.20 mm. Dark metallic green the abdomen with a yellowish band around it just out from the base; cephalic legs pale yellow, including coxæ; all of tibiæ the same color; intermediate and caudal coxæ black except at tips; intermediate femora black except for some distance from each end; caudal femora black at distal half except at tip, pale yellowish at tip.

low at proximal half or nearly, the proximal margin of the black cuneately scooped out. Tarsi dusky. Wings subhyaline. Fourth funicular joint longer than the club. Mandibles 5-dentate.

From one specimen, similarly magnified.

Female: Not known.

Described from a male captured by sweeping foliage and grass in an open forest at Proserpine, Queensland, November 3, 1912. Like *impudens* but differing in the coloration of the legs and abdomen, the band of the latter much broader; also somewhat like *minor* but differing in the coloration of the legs, especially the femora.

Habitat: Australia, Proserpine, Queensland.

Type: No. Hy. 1280, Queensland Museum, Brisbane, the above male mounted in xylol-balsam.

Later, a second male was found, collected at the same time; in this specimen the femora were nearly wholly black.

***Elasmus fasciativentris* new species.**

Female: Length, 2.5 mm. Metallic green but very dark, the proximal two-thirds of the abdomen orange yellow, immaculate and extending farther caudad on the venter but along the dorsum crossed by four conspicuous broad blackish bands, the widest of which is at the base of the abdomen and is metallic; there are thus in the centre of the dorsum three broad black bands of about equal width and not extending into the dorso-lateral aspects. Tip of abdomen black for some distance (about distal third). Tegulae, post-scutellum, oral area broadly, scape and legs pale lemon yellow, the latter still paler, including the coxae, the tarsi blackish, the caudal coxa with its proximal two-thirds metallic green, the caudal tibia with the usual arrangement of black spines. Flagellum blackish, the pedicel lighter. Wings subhyaline, the venation dark. Funicular joints subequal, longer than wide, the first somewhat longest, longer and stouter than the pedicel. Face with thimble punctures.

From one specimen, similarly magnified.

Male: Not known.

Described from a single female captured by sweeping grass and foliage in a forest at Nelson, N. Q., November 28, 1912 (Alan P. Dodd).

Habitat: Australia, Nelson (Cairns), N. Q.

Type: No. Hy. 1292, Queensland Museum, Brisbane, the above specimen on a tag.

Elasmus australiensis has the postscutellum wholly lemon yellow; also *vicinus*; the latter should therefore be grouped with *flavipostscutellum*; *insularis* has a narrow transverse yellow band across the base of the same sclerite.

UFENSIA new genus.

Female: The same as *Ufens* in all structures, but the abdomen is longer, pointed conic-ovate, longer than the thorax, the ovipositor long, inserted at base of abdomen and distinctly exerted, the valves projecting beyond the tip of the abdomen for a length equal to about a third or somewhat less, the abdomen's length. Marginal and stigmal veins short, the former nearly a third shorter than the latter which is well-developed. Strigils absent. Mandibles apparently tridentate. The funicle twisted, the club 3-jointed.

Male: Not known.

This genus is omitted from my table of Australian genera of the family now (October, 1912) in course of publication; it would fall near *Neobrachistella* Girault because of the exerted ovipositor.

Type: The following species.

Ufensia pretiosa new species.

Female: Length, 1.00 mm., including the ovipositor which is about 0.20 mm. long. Similar to the Australian species of *Ufens* (more nearly to *hercules*) but differing in specific details. Black, the head except occiput and the base of the abdomen in the centre of the dorsum, orange yellow. Antennæ dusky pallid, the club more or less obscurely banded by two pallid bars. Legs black, the articulations, knees, tips of tibiæ and proximal two tarsal joints white, the posterior tibiæ nearly all white, the proximal two-thirds obscurely dusky. Wings hyaline, the venation black. Ovipositor black.

Posterior wings with three long lines of discal ciliation, the fore wings bearing about nineteen lines. Marginal cilia of fore wing very short. Distal tarsal joint longest.

From a single specimen, $\frac{3}{8}$ -inch objective, 1-inch optic, Bausch and Lomb.

Male: Not known.

Described from a single female captured by sweeping grass in a forest near Nelson, N. Q., October 10, 1912.

Habitat: Australia, Nelson near Cairns, Queensland.

Type: No. Hy. 1173, Queensland Museum, Brisbane, the foregoing female in xylol-balsam mounted with an *Oligosita*.

GENUS PROSPALTELLA Ashmead.

Prospaltella bears an oblique, short but nonsessile stigmal vein; *Coccophagus* bears usually a short sessile one, at right angles to the marginal vein as in the Entedonini.

Prospaltella nigrifemur new species.

Female: Length, 0.75 mm., including ovipositor. Sooty black, the wings hyaline, the ovipositor exerted for a fourth (more or less) the length of the

abdomen. Legs pale whitish except coxæ, hind knees and femora and proximal portions of other femora. Antennæ dusky pallid, the funicular joints all about twice longer than wide, the club-joints a little shorter, the flagellum filiform; pedicel distinctly shorter than the funicular joints taken separately. Thorax finely reticulated. Hind wings with six lines of discal cilia, the lines in pairs—middle, caudal and cephalic—the hooklets distad of the middle of the blade, the caudal marginal cilia slightly shorter than the greatest width (at the hooklets). Fore wings with about fifteen lines of discal cilia, the longest marginal cilia distinctly shorter than the same cilia of the hind wing. Ovipositor white, the valves black. Terminal segment of abdomen shortly conical, the valves of the ovipositor extruded beyond it for about its own length (that is, the length of the terminal segment.)

Male: Not known.

Described from fifteen females "from *Aleurodes* sp. on *Ficus*, June 13, 1913."

Habitat: Passoeroean, Java.

Types: Seven females on a slide (Queensland Museum).

GENUS TRICHOGRAMMA Westwood

Trichogramma australicum Girault.

A female agreeing with the description of this species from the eggs of *Grapholita schistaceana*, Passoeroean, Java, Sept. 15, 1913 (P. van der Goot). Also many specimens from *Diatræa striatalis*, Passoeroean, August 25, 1913 and from the eggs of *Chilo infuscatellus*, Passoeroean, August 20, 1913 (P. van der Goot).

In regard to some of these specimens van der Goot wrote: "These I am mainly sending you, because I can't make sure myself whether they ought to be ranged under *Trichogramma* or *Trichogrammatoidea*. I find very minute, little knoblike appendages on the funiculus and the four last antennal joints of all." In the specimens of *australicum* from *Chilo*, I also observed these organs quite as they occur in *Trichogrammatoidea*; they were on the female funicle. *Trichogrammatoidea*, thus, is not characterized by bearing these minute organs but solely by the different male antenna and the longer marginal fringes on the fore wing.

It strikes me that the occurrence of these organs is very rare in *Trichogramma*, since I have never seen them before. Are they conidial spores of fungi?